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ABSTRACT

The major objectives of the 3-year Claymont Behavior Modification Project, which involved 11 teachers and 270 students, were to: a) train teachers in operant procedures for use in an uncontrived natural setting; b) accelerate student academic performances, with a special view to achieving one year's academic growth in one chronological year for special education children; c) involve parents in project-related procedures; d) maintain a rigorous and continual formative evaluation program to monitor progress in order to provide feedback for instructional program adjustments; and e) develop an array to teacher-made materials appropriate to individualized programming, both remedial and normative. All of the teachers reported satisfaction with project conduct and product. All of the objectives stated above were met or exceeded. On standardized assessment devices, specially prepared achievement tests, and individual behavior change charts, students showed substantial gains: 70% of the special education children displayed academic growth in reading, spelling, and arithmetic in excess of the one-year growth target. Social problems were at a low level at the beginning of the third year of the project and continued at a minimal level throughout the year. Project procedures have been disseminated and have been adopted by some schools outside of the Claymont School District. (Author/HMD)

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CLAYMONT BEHAVIOR MODIFICATION PROJECT
CLAYMONT SCHOOL DISTRICT
CLAYMONT, DELAWARE 19703
7/1/72 to 6/30/73
Project #71-10

OUTCOME EVALUATION REPORT

FISCAL YEAR '73

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
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William F. Shaw, Project Director
Dr. Frank J. Furgule, District Superintendent
ESEA of 1965, Title III, PL 89-10, As Amended

July 15, 1973

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II. BRIEF HISTORY AND GENERAL GOALS OF THE PROJECT

A. Who was involved in writing the proposal and getting our project under way:

Mr. William F. Shaw, Project Director, was involved in writing the proposal along with Mr. Richard Rooney, Project Coordinator. Dr. Jack Neisworth, formerly instructor at the University of Delaware and now Assistant Professor at Penn State University, has been involved since the project's onset. Dr. Joseph Jenkins, Dr. Stanley Dinc, and Dr. Jack Neisworth offered and managed a course in behavior modification in Claymont five years ago. Two years ago Dr. Daniel C. Neale provided a day's consultation per week through the University's Cooperative Program for Educational Development. Last year that program had to be shelved, due to Dr. Neale's being appointed Dean of Education. Dr. John Gaynor, another University of Delaware professor, volunteered consultative assistance in the project's second year. Another University staff member was allowed to offer a course on the Claymont campus several years ago, designed to meet the specific needs of handicapped youngsters. Local administrative support, mainly from Mr. Eugene Bouchard, Mr. Richard Rooney, and Dr. Frank J. Furgele, gave the needed impetus to get the project off the ground. Basically, the project has been a cooperative endeavor between the University of Delaware, the Claymont School District, and the State Department of Public Instruction.

B. Why the project was initiated:

(1) The related LEA needs include increased positive reinforcement, teacher creativity, and improved social and academic pupil behavior. Focus originally was to develop an entire elementary school on a contingency management model. No such public school model could be found at that time in the literature. Historically, this did not work out due to the development of poor relations with other staff members. This was extinguished in the second year by (1) the elimination of control groups (Teachers felt threatened by being compared and possibly felt neglected due to the increased reinforcement and attention given to experimental behavior mod groups.), (2) assuring other staff members that we had decided to spread laterally to other schools, therefore, eliminating the necessity for them to become a project member or to be forced to be transfered to another school.

On a national, as well as local, level teacher apathy, student fear of failure, increased social disorders, better identification of learning and/or physiologic handicaps cite need for more objective assessment and intervention techniques for dealing with problematic behavior. We also recognize the need to deal more effectively with teacher-pupil attitude which may affect, adversely, the learning process. Also we feel the need to zero in on some realistic parental, child and parental school involvements in youngster's learning programs. Historically, too many youngsters develop techniques for dealing with avoidance of failure rather than face ensuing degradations or criticism. We need to develop or procure materials, equipment, and programs that actually teach children at their instructional levels,

implying that all too often youngsters are not placed on their own levels, although this is the school's philosophy. Other high priorities include curricular design on which the ingredients of precision teaching are based in order to provide a "match" between the youngster's school experiences and his environmental experiences and to develop an improved pupil self-concept.

(2) The general focus of the project must be considered motivational in which each youngster is assessed and programmed to develop and progress at his individualized rate. This thrust endeavors to have each child live up to his own expectancies in individualized achievement. We find that this accrues best when the parents are involved in their youngster's educational process. We have also found that this can best be accomplished through Parent Training Sessions in order to coordinate what is being taught in school with what is being carried through in the home.

III. SPECIFIC PURPOSES OF THE PROJECT

A. A clear statement of objectives can be found in VI-Results.

B. Special areas investigated during fiscal year '73 include:

(1) Development of educational materials based upon operant psychology with emphasis on errorless discrimination learning and programming so that materials and teaching strategies agree.

(2) Testing further uses of the DISTAR reading program, especially for older (11 year old) dyslexic-like youngsters.

(3) Initiating parent contracts on attendance at Parent Training Sessions.

(4) Capitalizing on social targets first in order to establish initial healthy learning atmosphere. (See RESULTS)

IV. DESCRIPTION OF THE PROJECT

A. Major thrusts again this year are to measure reading and math academic behaviors, weekly or bi-weekly, and to measure social behavior and to provide contingencies to accelerate or decelerate in the desired direction.

B. Essential nature of the project's operation: (See On-Site Evaluation for favorable evaluation of instructional sequence and time devoted to project segments and general evaluation.) (DPI and Title III Advisory Staff evaluators rated project a 3.8 of a possible 4.0 on this year's evaluation.)

(See Appendix for evaluation of project programs and project equipment.) Basically, each teacher rated programs that were used in individual classrooms and the equipment used, since some teachers were using programmed instruction (Sullivan, Merrill) which is designed for behavioral strategies. Whereas others were using basal programs, it was impossible to rate the effect of this by teacher ranking. However, this does not deter from the project evaluation but actually establishes, objectively, the individualization of the program. In fact, one of the outcomes of the project is indicated clearly here in that multi-

programs can be used effectively with behavioral principles. At the project's onset it was assumed that materials such as Sullivan and Distar or others designed on the principles of operant conditioning, i.e., immediate feedback, errorless discrimination, etc., would be necessary for full utilization of operant teaching strategies. This is apparently not so. Even teachers using basal reader programs use behavior modification instructional techniques effectively and efficiently. (See Appendix)

Priority program equipment rank order figures are biased as most teachers included tie ranks because they could not choose between equipment. One teacher ranked ten materials in first place, indicating she used all ten with equal educational efficiency. Therefore, modal are included to indicate the number of the most often chosen material regardless of ranks. (See Appendix)

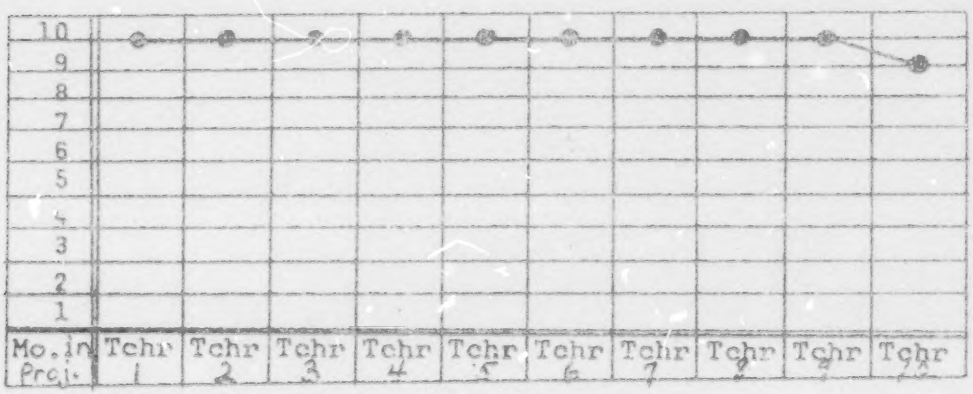
C. The basic instruction offered has been use of precision teaching, behavior modification strategies. Actually, the Sullivan Instructional Program lends itself well to self reinforcement. A new program initiated last year and used extensively this year is the DISTAR program.

Another interesting finding within the project's structure was the use of combined assessment and teaching built in the reading and math word lists and numbers programs. Teachers, youngsters, and parents look forward to the weekly or bi-weekly testing and graphing of progress.

D. Facilities: The program exists in three elementary schools; Maple Lane Elementary School, Green Street Elementary School, and the Darley Road Elementary School. Also, teachers in the Pennsylvania Avenue Elementary School and the Claymont Middle School were involved in In-Service training and used behavior modification strategies. All three schools have resource areas in which youngsters may earn the right to attend. Games, educational devices, and instructional equipment are housed in these centers. The school district was cooperative in providing rooms specifically for this purpose. Limited available supervision time forced us to not spread beyond the three schools.

E. Personnel Involved:

(1) Here are some suggested people involved and length of service.



Reason if not full year: Teacher #10 entered after one month.

(2) Pupils involved in project include three elementary schools listed below by grade and school. Pupils in the other elementary school and the Middle School were influenced by our teacher training program. Other elementary school youngsters within the three schools were also influenced by their teachers being involved in our teacher training program and by teacher visitation to project. Surprisingly, teachers who three years ago were vociferous against behavior modification say very little today, but nevertheless, ask many questions and are observed regularly giving candy to their children. Others openly admit the project has influenced their style of teaching to some degree. Children in the elementary school in general are more individualized in terms of instruction, social and emotional modification and physiologic developmental programming. Positive reinforcement appears to be the primary mode of motivation.

Children involved in program by school and administrative category:

	SCHOOLS		
	MAPLE LANE	GREEN STREET	DARLEY ROAD
Classes:	S.E.M. (Primary) S.E.M. (Intermediate) L.D. 2nd Grade (Regular)	E.M.R. Title I Reading	S.E.M. Readiness 1st Grade (Regular) 3rd Grade (Top) 3rd Grade (Regular)

(3) Project teachers were asked to rate their teacher-aides on a number of dimensions related to conduct of the project. Their ratings are summarized in table below. (See Appendix for sample of the evaluation form employed.) Ratings were obtained from ten teachers who evaluated seven different aides, since some aides did not have exclusive relationships but, instead, worked with two teachers. In some cases, certain evaluation dimensions are not applicable (NA), depending upon the latitude of operation allowed to an aide by the teacher.

	Control			Efficiency		Flexibility	Sticks to tasks until completed
	Individuals	Small Groups	Entire Class	Graphing	Counting	Surveys situation & fills gaps	
1971-72	4.5	4.1	3.4	4.7	4.2	4.2	4.1
1972-73	4.7	4.4	3.9	4.7	4.7	4.8	4.8

	Relations		Inventiveness		Public Relations Image	Able to make changes easily	Knowledgeable
	Children	Staff	Schedule	Instructional Sit.			
1971-72	4.8	4.8	4.0	4.1	4.6	4.5	4.3
1972-73	4.9	5.0	4.2	4.2	5.0	4.8	4.6

It is clear from the survey results that project teachers were quite satisfied with their aides. High ratings (4.5 to 5.0) were recorded on all dimensions except under Inventiveness-Schedule (4.2) and under Control-Small Groups (4.4) and Entire Class (3.9). Actually, those ratings are still high considering that many teachers didn't expect aides to control groups or the whole class. Further, aides have not had extensive training in design and use of instructional materials; therefore, ratings of 4.2 in Inventiveness in Scheduling and Instructional Situations are surprisingly nigh.

Finally, it should be pointed out that in all cases, ratings for 1973 are higher than corresponding 1972 ratings.

(4) Project Director's qualifications are included in Personnel Conducting Evaluation. Project Coordinator, Mr. Richard Rooney, has a masters degree plus post masters credits and is currently enrolled in a doctoral program. He is currently employed as District Administrative Assistant.

(5) One staff member, Mrs. Beatrice Young, received her masters degree in Precision Teaching and currently coordinates the local SEIMC center. This lends to natural trial of new educational materials as Title III and SEIMC coordinate services.

V. EVALUATION METHODOLOGY

A. Personnel conducting the evaluation:

(1) Mr. William F. Shaw, project director, is responsible for this compilation of data and processing. However, Dr. Jack Neisworth and associates actually conducted the evaluation offering professional expertise in the treatment processes of the results found in Table VI. This team was most helpful with processing our continuous evaluation program.

Background and qualifications of personnel: Mr. William F Shaw, project director, has a masters +60, is a certified school counselor and school psychologist. Has taught at the University of Delaware in the graduate evening program. Has written proposals, managed or evaluated the following federal programs since 1966: Emily Bissel Educational Program, Claymont Summer Diagnostic Program-Title VI (2 years), Public Law 85.926, and Title VI Curriculum Design Project, Title III-Behavior Modification Project (first year, second year, and current third year). Completed clinical school psychologist internship under Dr. Joseph F. Jastak. Does psychological evaluations for Vocational Rehabilitation on private basis, is licensed for private practice of psychology in State of Delaware. Is presently teaching a graduate course, "Techniques of Behavior Change" at the University of Delaware.

(2) John T. Neisworth, Ph.D.: Doctorate in Special Education and Educational Psychology, Minor in Educational Research. Associate Professor of Human Development, Pennsylvania State University. Special area of research and evaluation is child behavior change and prediction through use of application of behavior principles.

Previously conducted a three year USOE project with retarded and normal children, conducted evaluation and reported findings. Currently running behaviorally based pre-school at Penn State. Program involves use of behavior modification techniques and evaluation of impact of procedures. Currently in charge of screening research in the four pre-school units at Penn State. Is co-author of "Student Motivation and Classroom Management".

(3) John G. Greer: Masters in Special Education, working towards Ph.D. in Special Education. Co-designer, implementor, and evaluator of special project for Marshallton School District on behavior modification model for an integrated fifth grade. At University of Delaware, evaluated effectiveness of various instructional strategies with individual children.

(4) Karl E. Goeke: B.S. in psychology-University of Delaware, M.S. from Penn State University in child development. Working towards Ph.D. in Human Development-Pennsylvania State University. Assistant to special project for Westmoreland County Special Education Teachers on implementation of behavior modification strategies. Currently supervising teacher of behavior modification laboratory pre-school at Penn State. Position involves continual assessment and evaluation of child progress.

B. Statement of decision areas and questions investigated:

Major decision areas were whether or not to apply t-tests to treatments or to use inspection as the primary evaluative device. Almost all treatments lend to obvious graphic visual inspection. Actually, the questions investigated were the project objectives. (See RESULTS-VI)

C. Information collected:

(1) Since the assessment program was a continuous measurement program, data was collected immediately when school began and continued throughout the year. Teachers initially collected social data and baseline of academic targets. Literally, thousands of graphs were developed from charted materials. Evaluators need to note that although a social target is being charted and graphed initially, that target no longer is graphed when the behavior is going in the desired direction, such as accelerated or decelerated. Thereafter, new social targets or new academic targets are instituted in its place. This clarifies some of the issue commonly raised, "What happens when reinforcement stops?" In other words, reinforcements continue but the targets change.

(2) Reading and math data, collected all year, originally was measured primarily by one teacher-aide and eventually picked up by individual classroom aides.

D. Data analysis procedures:

(1) The sampling units used were individualized pupil progress, classroom averages, and project summaries.

(2) Special procedures used were regular graphs and standardized tests.

(3) There was no missing or questionable data encountered.

(4) Statistical procedures used were graphing of data, visual inspection by outside evaluators for assessmant of practical significance. (As with most operant research, the data are not amenable to, or is it necessary for, traditional statistical procedures that examine group differences between experimental and control group means.)

VI. RESULTS

Basic project results are determined by evaluating each objective below.

BEHAVIOR MODIFICATION PROJECT OBJECTIVES
1972-73

1. To train teachers and aides to become increasingly expert in Precision Teaching and behavior modification strategies, as measured by increases in student capabilities and by a specially constructed teacher competence form. A special target in this category is the decreased use of aversive tactics, verbal and non-verbal.

2. To increase student's academic achievements in reading and arithmetic one year (as measured by special measures devised for this project) and to increase student's social-emotional skills.

3. To increase parental participation in the learning program of their children as measured by parent involvement in task assignments, attendance at parent training sessions, and results of competency evaluation form on a parent sample.

4. To maintain a rigorous evaluation plan to measure/improve student success within the program by continuous data collection throughout the project's longevity.

5. To develop teacher-made educational materials (and techniques) with emphasis on errorless discrimination and sequential learning commensurate with behavior modification principles.

1. Evaluation of teacher expertise in behavior modification and thus the impact of the project teacher and training program was attempted in several ways.

A. First, teachers were evaluated by an independent outside observer. Special forms, constructed for this project, were employed during the observations. The forms require both observation of teacher behavior and interview with the teacher.

In addition to the thirty minutes or so spent in each classroom, the observer also discussed the project with various members of the staff, including the project director and the consultant.

Six of the ten teachers have moved from token economies to consistent use of Premack procedures now that formal token systems are no longer a necessary incentive policy. Generally, the project teachers show a high attention to desirable behavior through awarding of points and/or social reinforcement.

Attention to undesirable behavior has definitely been minimized, illustrating the teacher's skill at extinction procedures. Pooling the observations over the ten teachers, attention to desirable behavior reached 86% with only 14% attention to undesirable behavior. This is dramatically different from the usual classroom situation where the teacher emits a predominant frequency of attention to unwanted behavior.

B. As indicated in the proposal, the main thrust of this year was to train the teachers so well that the children's progress would be substantial and reflect the teacher's competence. Thus, evaluation of student progress constitutes a measure not only of child development but also an index of teacher capability.

The measures of student improvement are reported under Objective No. 2.

Unfortunately, one of the ten teachers was absent during the observation. For those project teachers observed, however, the general findings indicate that all do indeed understand and practice the application of behavior modification procedures in their classrooms. Specifically, the nine teachers observed, with few exceptions:

(a) State group targets in behavioral terms that permit measurement and evaluation of progress. Group targets include some academic objectives in assignments and attention to tasks. In all nine instances, teachers have posted continuous data relevant to the group targets.

(b) All ten project teachers state numerous individual targets appropriate to children under their supervision. These targets cover a range of individual development objectives including: staying in seat, coming in from recess on time, printing capital letters and numerals, vocabulary growth, arithmetic accuracy, spelling, improvement in self-control, and increases in positive self-referant statements about self and others.

(c) Data is continually collected by the ten project teachers on all the targets mentioned in (a) and (b) above as well as on other targets. Frequency data are displayed in graphic form (bar graphs and frequency polygraphs) open to inspection at any time. In many cases, many of the graphs are posted around the rooms and serve as cues for progress for the children.

Of the ten project teachers, 100% collected academic behavioral data; 80% collected such data in a consistent, systematic way that almost completely conformed to project expectations. The project's success may, in large part, be due to the continual student progress evaluation (formative evaluation) and concurrent adjustments in educational programming.

(d) A variety of formal reinforcement systems are in use by eight of the nine teachers observed. The systems vary according to teacher preference and class size, age, and logistics problems. Systems include token economies, points, stars, and general use of the Premack principle where lower preference activities are systematically followed by higher preference events, e.g., "finish your math (90% correct) then go to the game room for ten minutes". Privileges, wants, and prizes can be obtained with earned credit. Great flexibility exists in the scope of available reinforcers in order to maximize the system's effectiveness. Formal systems are supplemented with informal positive comments and teacher attention. Positive ear-shotting is frequently employed, as are other ad-lib tactics consistent with an operant approach.

C. A special target was to decelerate the use of aversive tactics in the classroom, whether verbal or non-verbal. While the achievement of this objective should be reflected in the increases of student capabilities. A more direct measure is the specially constructed teacher competence form. (See Appendix) This form was used by an independent, trained, consultant-observer during two separate observations of the teachers involved in the project. The observation may be summarized as follows:

(1) Use of aversive tactics has dropped to exceedingly low levels. During the two thirty minute (unannounced) observation periods, only two incidences of aversive teacher behavior were observed. This comprises only 1% of the 111 teacher-student exchanges observed. Such a phenomenally low incidence is probably related to the presence of an observer. Nevertheless, it is much lower than last year and is probably reflective of general teacher behavior; it would be difficult for a teacher suddenly to switch modes of discipline just to suit an observer.

(2) A further and impressive piece of evidence that suggests the minimal use of aversive tactics is the low incidence of social-deportment problems. Theoretically, the more positive a program and the less punishment that is used, the fewer problems that will arise; as fewer problems arise, the less the occasion for use of punishment. Indeed, project teachers have impressive control of their classrooms. Whole class disturbances simply don't exist. Individual discipline problems are at a negligible level and are of no real concern to any of the teachers.

(3) Finally, even attention to undesirable behavior seems quite minimal. Specifically, during the observations, only 16% of teacher-student exchanges involved attention of any kind (even a glance) to undesirable behavior. Thus, the teachers have become skilled at extinction procedures as well as minimizing aversive strategies.

In summary, then, the project teachers have been eminently successful in minimizing their use of aversive tactics--and this seems to have paid off in producing positive classroom environments where children are engaged in constructive progress rather than in disturbed or disturbing behavior.

D. Teacher attitude toward the project training might be viewed as anotner evaluative index of the training program. The ten project teachers were asked to respond to a six item questionnaire (forced choice) that assessed their attitudes toward the project and its impact on children. (See Appendix for sample of form) Results are displayed in the tabl below. The results speak for themselves: project teachers are overwhelmingly supportive, enthusiastic, and positive in their expressed attitudes toward the project approach, content, and effect on children.

TEACHER OPINION SURVEY
(N=10)

% Response		
	1. I have enjoyed teaching with the Contingency Management Approach	
100	a.	more than if a traditional course format had been used.
	b.	the same as I would if a traditional course format had been used.
	c.	less than if a traditional course format had been used.
	2. I think my students have learned	
100	a.	more with the new course format.
	b.	the same with the new course format.
	c.	less with the new course format.
	3. I have worked	
90	a.	harder with the new system.
10	b.	the same with the new system.
	c.	less with the new system.
	4. I	
100	a.	am satisfied with the new approach.
	b.	don't care about the results.
	c.	am dissatisfied with the new approach.
	5. The training program was	
20	a.	difficult.
80	b.	average.
	c.	easy.
	6. I find designing educational materials commensurate with the laws of sequential learning development	
30	a.	difficult.
40	b.	average.
30	c.	easy.

2. Student academic achievement has been continuously monitored, recorded and displayed throughout the school year. Individual and class graphs of student academic achievement are available for inspection. Summaries of achievement in the academic target areas are presented in the following synopsis. Several different instruments and procedures were employed to assess student progress due to the difference in student groupings, e.g. regular classrooms and special education groups. The following, then, is a summary of the results of the assessment of student academic progress in the target areas.

A. Sullivan reading achievement assessment involved several steps. First, records were kept of the beginning Sullivan book for each student. Pupils began in the book most appropriate to their level of reading as judged by other achievement data and teacher judgement. As students progressed, they were moved to more advanced books; the highest book successfully completed reflects final reading achievement.

Secondly, the publisher furnishes a table that relates each Sullivan book number with a corresponding grade difficulty level in sentence structure and vocabulary. (These Sullivan equivalents highly correspond with standardized achievement test grade levels.)

Third, the differences between initial and final grade level difficulty were computed for each student.

Fourth, average increases in difficulty level were calculated and reported for each of the five classes using the Sullivan series, rather than reporting each child's progress. Likewise, we report the average entry (initial) Sullivan book and average completed (final) book by calculating the median Sullivan book for each class at the beginning and end of the year.

SULLIVAN EVALUATION

(For all classes using the Sullivan Series. Four special classes and one regular second grade class.)

Class	Median Sullivan Book Begun This Year	Range of Beginning Books	Corresponding Vocabulary & Sentence Structure Grade Difficulty Level	Median Sullivan Book Completed at End of Year	Range of Completed Books	Corresponding Vocabulary & Sentence Structure Grade Difficulty Level	Change in Grade Difficulty Level
1	1	1 - 7	1.2	9	5-1/2 - 12	3.0	1.8
2	3	PR - 8	1.6	10	2 - 15	3.3	1.7
3	6	PR - 16	2.3	13	3-1/2-21-1/2	4.0	1.7
4	8	1 - 10	2.8	14	10 - 20	4.9	2.1
5	4	PR - 15	1.8	10	2-1/2 - 17	3.3	1.5

Summary: In evaluation of the progress of the children as reflected in the Sullivan Series reading achievement scores (sentence structure and vocabulary differences), the data in previous table details again consistent student growth of at least one year or more. Averages for each of the five classes show, in all cases, achievement in excess of the one year project criterion (1.8, 1.7, 1.7, 2.1, and 1.5 respectively). Across all classes, the average increase in difficulty level was 1.76. This figure represents a three-quarter year increase over the normative increases reported by the authors of the Sullivan Series.

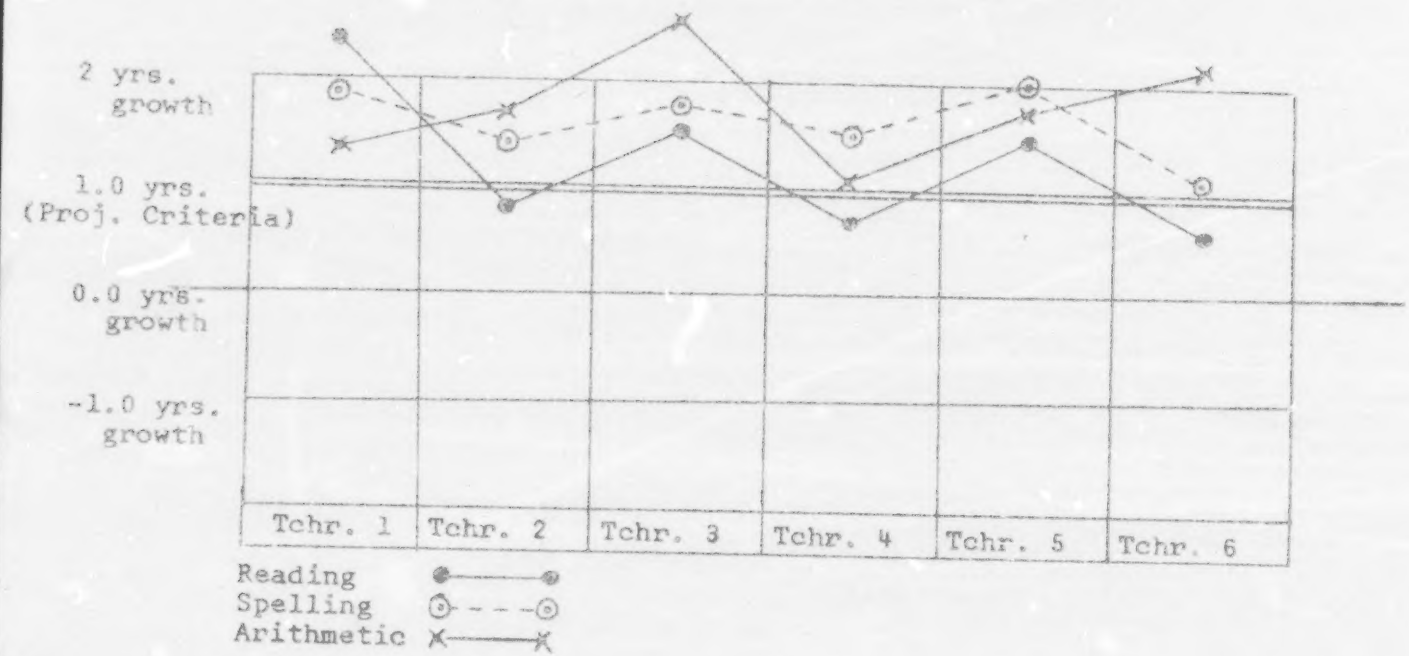
B. Wide Range Achievement Tests were administered to special education classes. Results are reported in terms of changes in grade level standings, pre and post. The project criterion was one year's increase in reading, mathematics, and spelling achievement. A one year academic increase in one chronological year was deemed to be a challenging target since, by definition, special education children, for the most part, demonstrate less than normal academic progress.

In addition to reporting class averages, we also report the number of children in each class who did not reach criterion and the percentage of each class that met or exceeded the one year growth target.

WRAT (Wide Range Achievement Test): Results of five special education classes based upon differences in one year's equivalancy between pre and post tests in Reading, Spelling, and Arithmetic.

(Averages of five classes by subject (N=57):

Reading	Spelling	Arithmetic
1.40	1.58	1.60



It should be noted that total special education class averages for reading, spelling, and arithmetic (as assessed by the WRAT) are all above the project one-year growth target. Additionally, reading was above criterion in three of the six classes, with three falling almost on or slightly below criterion. Spelling performance was above criterion in all cases. With no exception, math performance was well above the one-year target. This finding is of special importance since the results of the project's second year (see page 25 of 1972 Evaluation Report) showed below criterion average performance in three out of four project classes. As stated in the second year's report: "Special emphasis on math contingencies will need to be launched next year." (Page 26) Thus, the extra focus on this achievement area met with great success

Number of students who scored below the one-year growth criteria per class for each subject:

Teachers:	#1	#2	#3	#4	#5	#6
Reading	1	5	3	5	1	4
Spelling	0	2	2	4	1	4
Arithmetic	3	4	0	3	4	0

Summary: Table above depicts the frequency of children who did not achieve the project criteria of one-year's growth on the WRAT. Of 57 children assigned to special intervention due to their non-achievement, only 19 did not meet the growth criterion in reading, whereas 67% reached at least the one year growth target. In spelling only 13 failed to achieve the year of growth desired, while nearly 78% of the population did achieve that goal. For arithmetic, only 14 children did not improve one or more growth years and about 77% of the children improved to the criterion level.

These results are indeed heartening in view of the fact that special education children are, by definition, those children whose school performance is somewhat below normative achievement. That is, these children, by virtue of their prior achievement on standardized tests and on in-school achievement tests, display inferior performance on the usual measures of reading, spelling, arithmetic, and other areas. Contrary to expectations, then, about 70% of these children showed one year or greater academic growth in the usual areas. This means, at least on our measures, that about 70% of project special education children actually displayed normal or better performance growth. One implication of this is that the project strategies, materials, and training, in effect, reduced the "special education" pool by about 70%. That is, of the 100% of children in special classes, only 30% failed to display average or better achievement gains (one year growth in one chronological year). This means that the project failed to normalize progress rates for 30% of

the group. This group, then, constitutes a new and appreciably smaller group of special education children whose treatment requires more than that provided by the project in order to reach criterion.

C. Among the project teachers and teacher aides, several volunteered to learn and use the DISTAR SYSTEM for teaching basic reading. DISTAR, a phonics approach to reading, is closely programmed and incorporates basic behavior principles such as maximum to minimum discrimination, immediate feedback, and much positive reinforcement.

Evaluation of progress through use of DISTAR is difficult for several reasons. First, tests used in the DISTAR system are part of the learning sequence and are repeated until mastered. Consequently, they are not independent tests of progress. Secondly, the DISTAR system is not used exclusively, but is used in combination with other reading materials. This makes attributing progress solely to DISTAR unfeasible. The feasible procedure for assessing the utility of DISTAR is to directly ask involved teachers and homeroom teachers to indicate how each child is progressing through use of DISTAR. This was accomplished through use of the form as shown below. Results of this survey are then summarized.

Date: _____

Dear Teacher:

_____ has been in the DISTAR program for ____ months. Have you noticed a difference in his phonetics or word attack skills? Yes___ No___. If yes, would you consider the gain to be equal to one month per month, less than one month per month, more than one month per month growth per month in program? For example: (Name) _____ would be equal if he gained _____ months.

Note: We are having difficulty measuring the DISTAR program because all the youngsters continue taking tests until they pass them. Therefore, the test is not a good indication of their progress. May we rely upon your ingenuity to help us evaluate the program by adding objective or subjective comments below that might indicate the youngster's progress or lack of progress.

William F. Shaw
Project Director

RESULTS OF DISTAR EVALUATION SURVEY

Question: Comparing the total number of months your child was part of the DISTAR program with total months progress in reading, was the progress:

(a) less than time spent?
(b) about equal to the time spent?
(c) greater than actual time in the program?
(d) Can't answer - child not in program long enough.

Results:

		Number of Students Reported
(a)	less	2
(b)	equal	15
(c)	greater	12
(d)	can't answer	4

Question: What good, if any, has DISTAR been for your youngster?

Results: Rather than report each teacher's remarks concerning each child, remarks were inductively classified and frequency of remarks within each classification were recorded.

Most frequently reported result of DISTAR	Frequency of Report
(1) Sounds out words now, unlike previous behavior of avoiding unfamiliar words; much improved work attack skills.	18
(2) Skill in DISTAR has transferred to reading in other things like social studies and independent reading.	7
(3) Self-confidence, self-image has improved as a result of new reading skills through DISTAR.	6
(4) Skill in DISTAR has transferred to spelling.	5
(5) DISTAR has helped teach the child how to get along in small group work.	3

RANDOM SELECTION OF TEACHER COMMENTS ON DISTAR PROGRAM:

"In September, Trina would not consider attempting to unlock an unknown word. The program has given her needed confidence to try a strange word."

"This has been excellent for Jon. Jon needs a great deal of small group work. Since Jon has started with DISTAR, not only will he respond more in class but he actually attempts new words and he usually pronounces them correctly."

"The confidence gained in DISTAR has carried over into his other work."

"Brian made some pretty strong improvement after beginning work with DISTAR. He became much more confident in his reading. He began sounding out words on his own."

"Dianna's word attack and phonetic skills have greatly improved. There has been excellent carry-over of these skills into spelling. Her independent reading has increased. She chooses to read during free time."

"He now sounds out words on his own."

"Ricky never went further than initial sounds before. He now can sound out a whole word."

"Judith lacked confidence in herself before DISTAR. She would continually ask for help sounding out new words. She attempts to sound out new words in all of her work now."

"She is no longer hesitant to try new words. She now tries to help others sound out words."

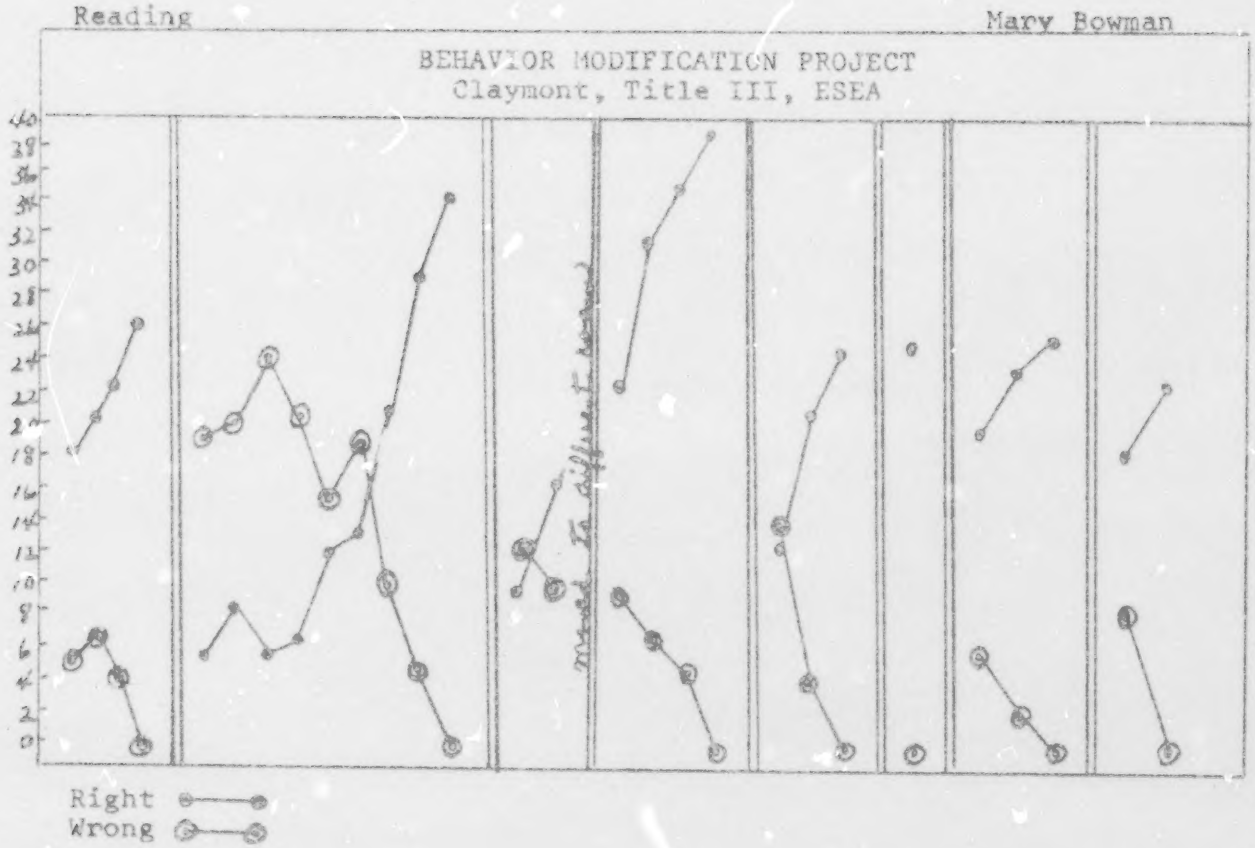
"Patty is now spending much of her free time doing independent reading since her word attack skills have improved. Spelling is also much easier for her. She is progressing much faster through the spelling lists."

D. Basal Reader and Math Program: The following individual graphs have been selected randomly as examples of individual gains over the duration of intervention. Although difficulties arise in determining objective criteria for an individual's growth of a year or more, inspection of the data shown below reveals consistent gains in their acquisition of reading and math program objectives.

(See graphs on following page)

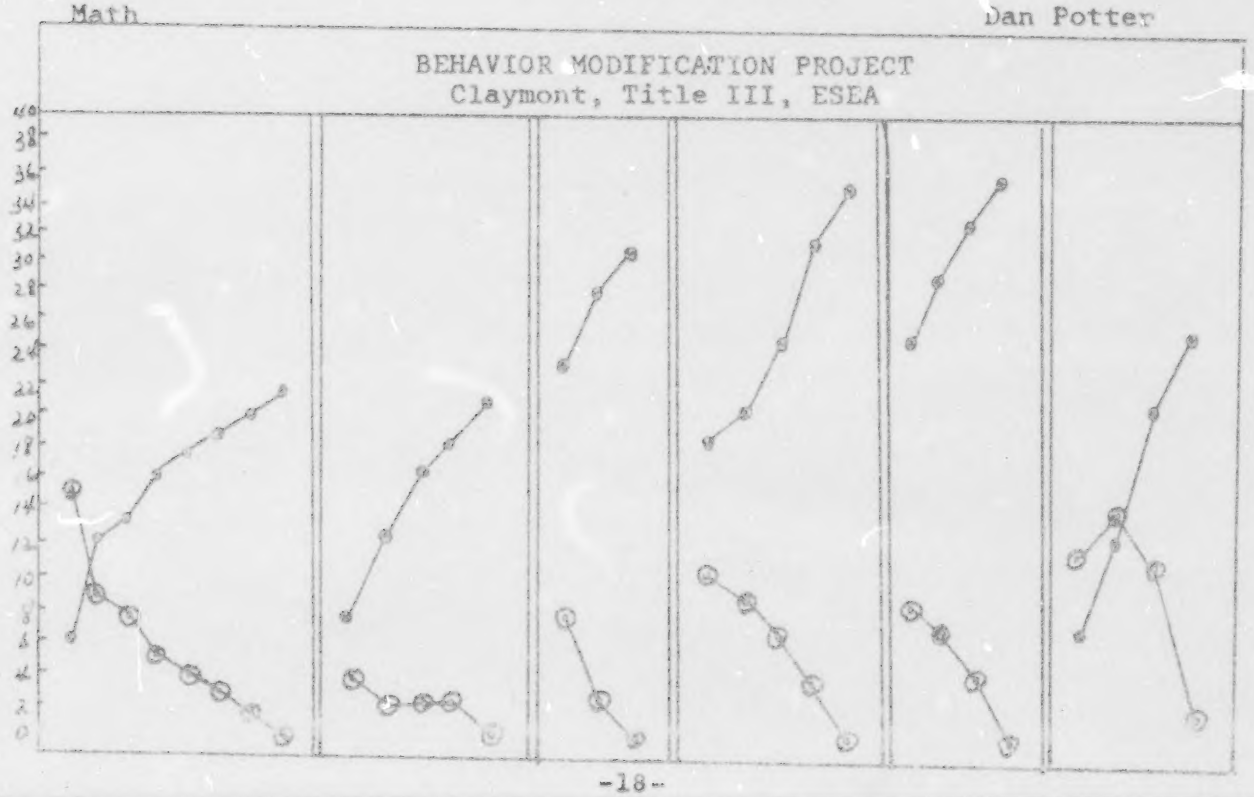
Reading

Mary Bowman



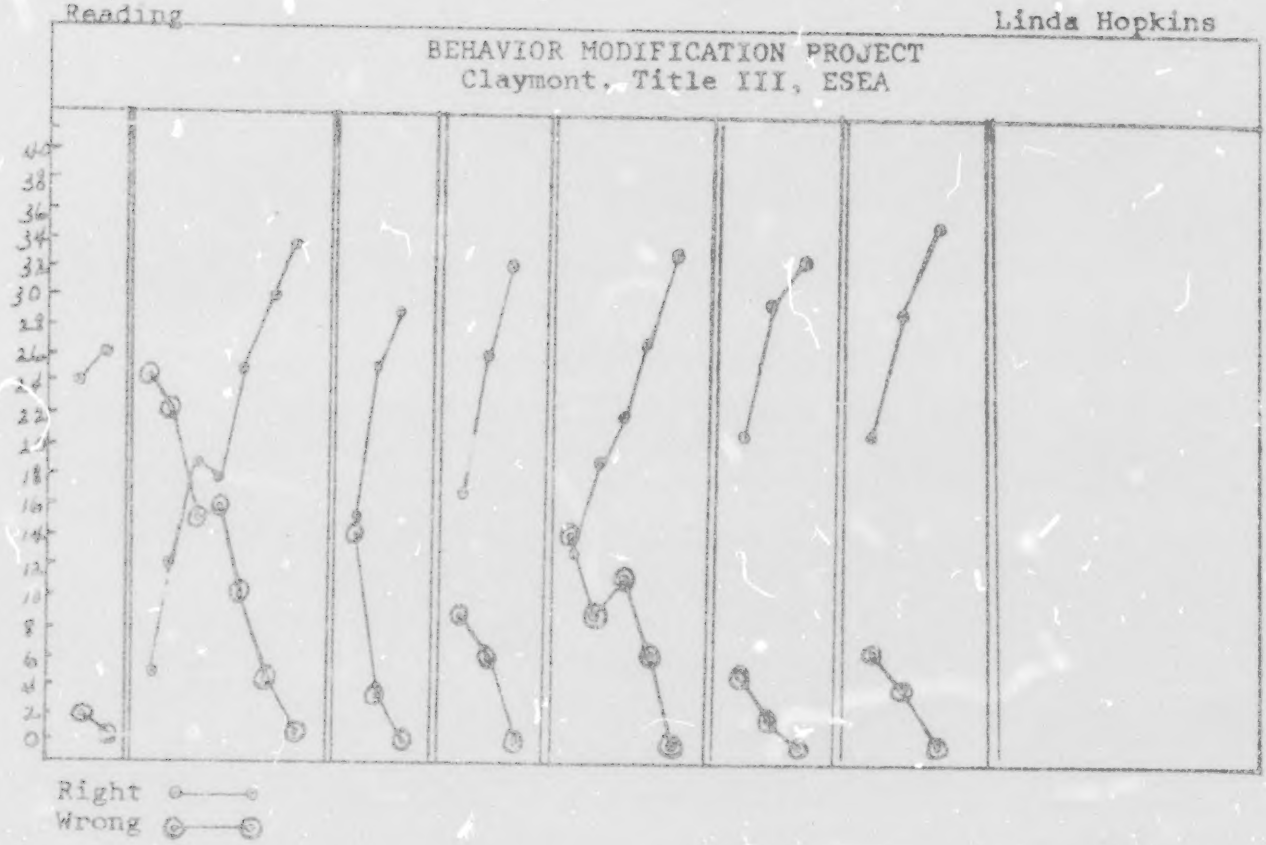
Math

Dan Potter



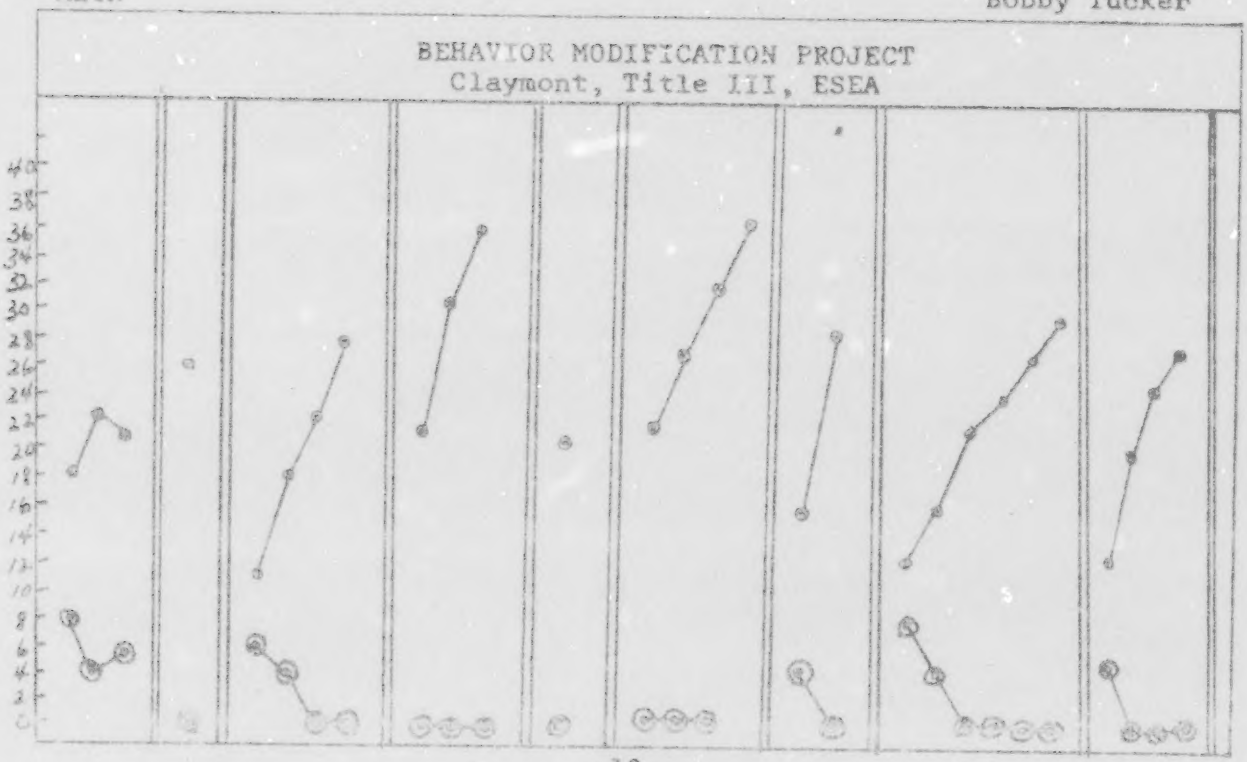
Reading

Linda Hopkins



Math

Bobby Tucker



All teachers in the project consistently met the reading criteria with their children. This year, special emphasis was placed on the development of a contingency management program for the acquisition of arithmetic skills. The graphs depict continual regular performance of the youngsters in acquisition of correct responding along with a steady decrease in wrong answers.

NOTE: The heavy verticle lines indicate program changes. The children were continued in the word program until they met the 100% accuracy criterion.

Criteria for the groups were objectified as follows:

(1) Readiness Class - Successful progress for the year was operationalized as the youngster's completion of the 3rd Pre-Primer.

(2) Regular Group - Success for a year's progress was considered to mean the completion of the Primer.

Group	Success Criterion	Pre-Primer Completed	Primer Completed	1st Reader Completed
Readiness N=20	Completion of Pre-Primer	20	17*	4
Regular 1st N=30	Completion of Primer	25	25	20

* 10 to go to Second Grade

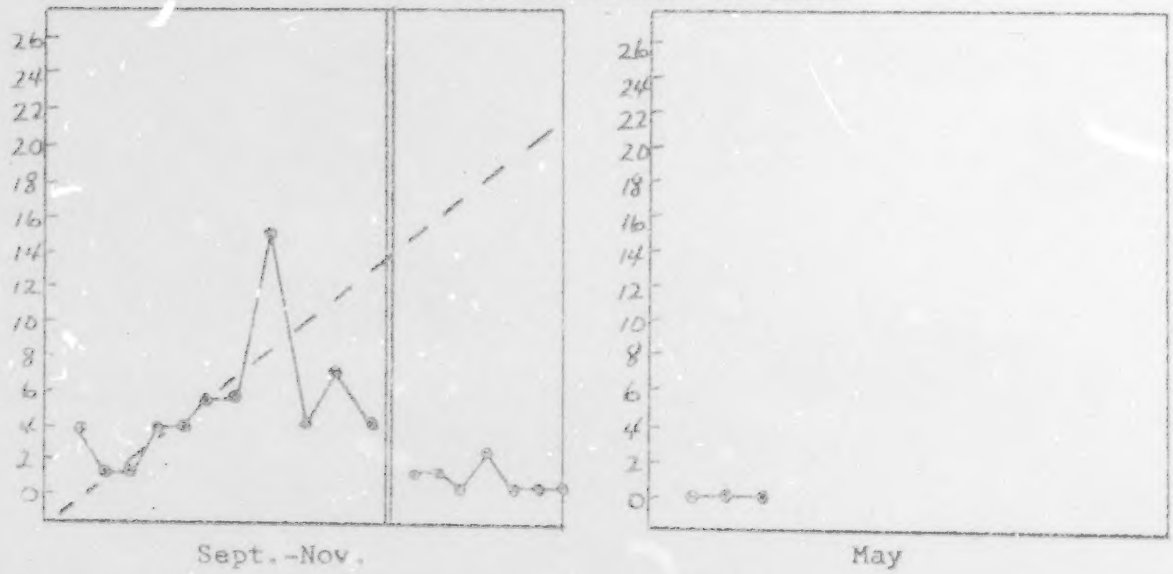
E. Social Targets: Four social or deportment targets were assessed in September in a series of eleven (5 min.) sample observations made by a teacher-aide who had been trained in the simple observational and recording techniques.

Frequency measures of seat leaving, classroom talkouts, nonattention to tasks, and disruptive behaviors are shown in graphs below. The vertical double lines represent the end of pretest observations and the initiation of the teacher-student contingencies. Individual contract arrangements were made between pupils and teachers. Group social contingencies were found to be helpful to some teachers, so were individual contracts with specific children who were the frequent and consistent exhibitors of disruptive and inappropriate classroom behaviors.

After the baseline measures, the observations and recording of the target behaviors were handled by the teachers and aides in the various classrooms. When the group contingencies had effectively extinguished the main of

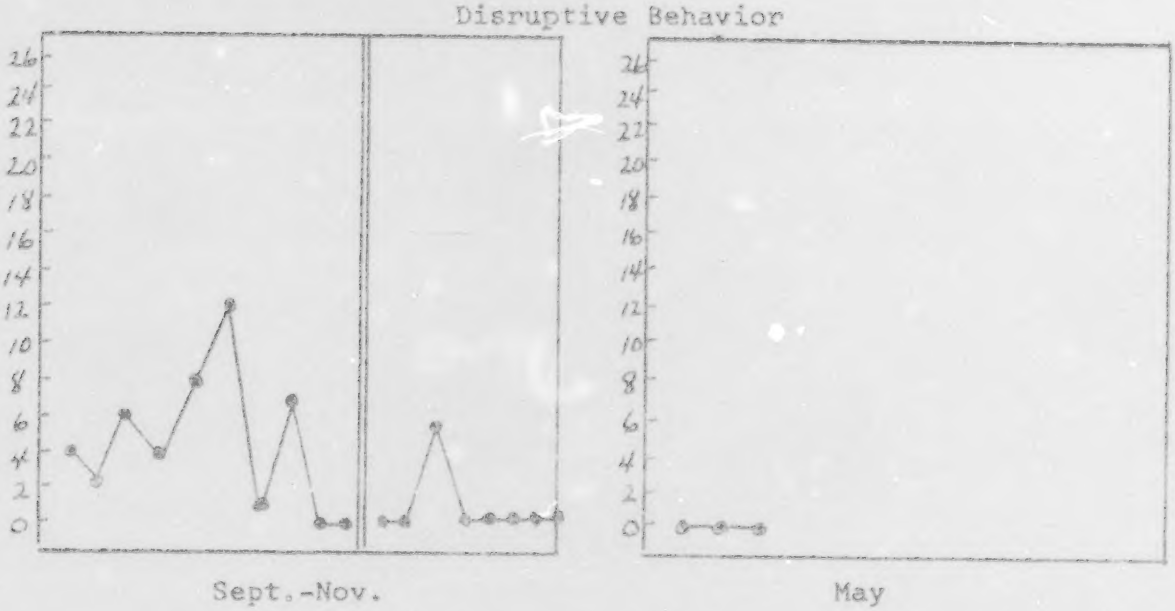
disruptions in the classes, the teachers continued to count group performances, while establishing contingency contracts with the children who had remained unresponsive to the group contracts. Points were awarded students who behaved appropriately or who withheld inappropriate behaviors. The points could be traded for reinforcing items, events, or activities. When social criteria had been achieved, the schedules of contrived reinforcements were gradually attenuated from a continuous to an intermittent ratio or interval. Following graphs also contain data which was collected in "follow-up" observations in May, 1973. (N=284)

Non-attendance to Tasks



Sept.-Nov. May

Disruptive Behavior

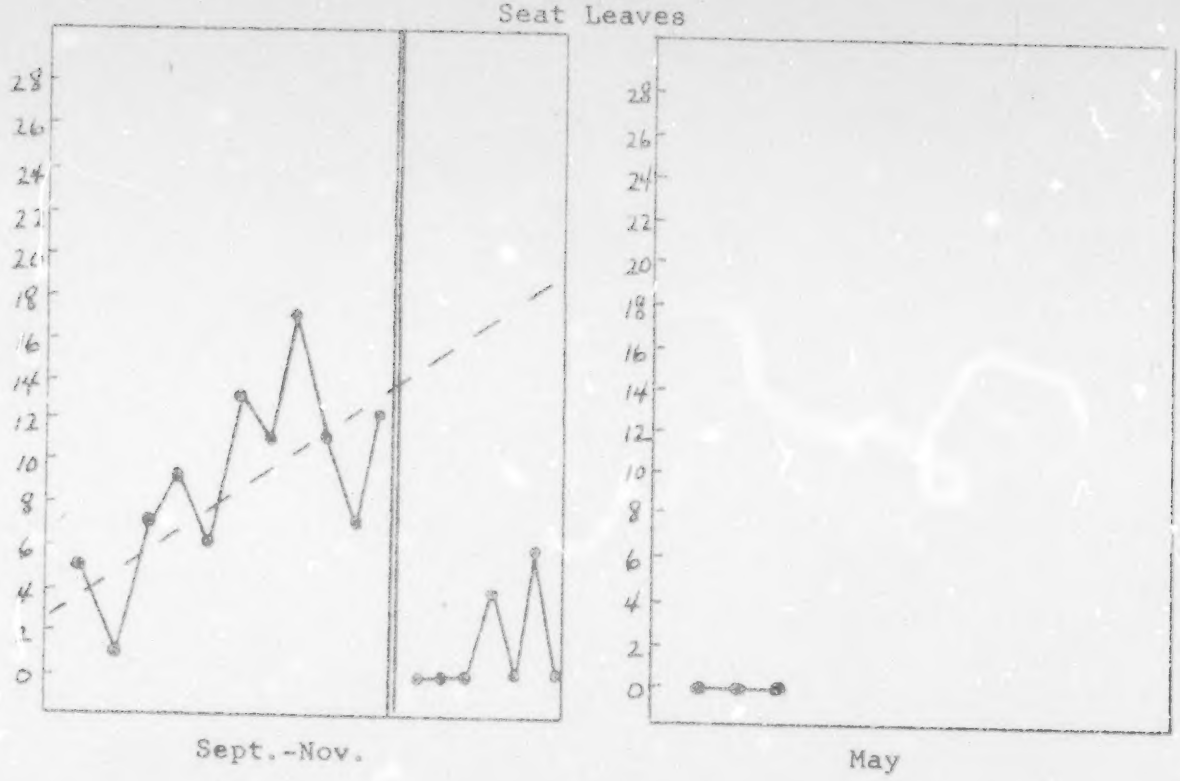


Sept.-Nov. May

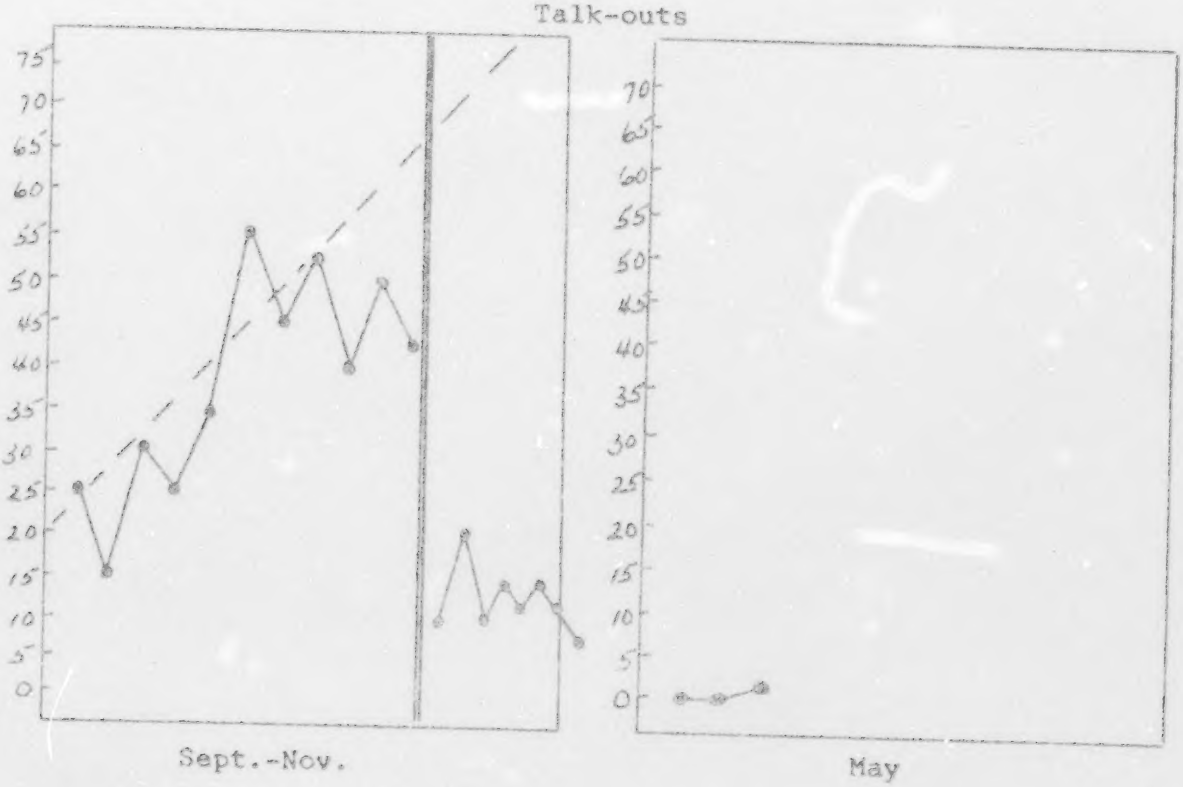
_ _ _ _ Est. lines of best fit for baseline predictions

(N=284)

Seat Leaves



Talk-outs



Summary: Individual strategies - As last year, unauthorized seat leaves posed a major problem. A device, "Feedback seat with timer", designed for the project, was attached to the regular school chairs; this was altogether successful in achieving significant changes in the desired direction.

Lines of best fit were estimated and drawn (see dotted lines on graphs) over the baseline graphs. Had intervention not been initiated, the children would have been expected to maintain their inappropriate social behaviors at a substantially high level or even increase in the undesirable responding. Fortunately, (as can be seen in the above representations)the modification contracts were totally effective in reducing these targets to zero in a matter of only a few days. Follow-up data collected in May shows maintainance of the social targets. The one exception was classroom "talkouts"; This behavior, however, was significantly reduced from as many as 55 responses in one (5 min.) baseline observation to as few as 6 "talkouts" after intervention began. The May observations showed that "talkouts" had co tinued to be reduced to zero on two of three behavior samples taken.

Considered as a whole, the social behavior modification is considered a striking success in the present project. The most important considerations of the intervention center around the absence of highly specialized personnel, as well as the general absence of aversive control strategies. The program, for the main, was conducted by the regular teachers and aides in consultation with the project director and part-time professional consultants. Moreover, only intermittent staff attention produced lasting changes in deportment, and since punishment was abandoned in favor of positive techniques, recovery of the undesirable behaviors was likely rendered less probable.

SOCIAL TARGETS WORKED ON THIS YEAR:

(1) Increase positive statements about self and others.
(2) Increase volunteer peer tutoring and helpfullness within peer group.
(3) Increase length of time special education students can work cooperatively with regular class reading group.
(4) Decrease aggressive behavior on playground.
(5) Decrease seat leaves.
(6) Decrease unauthorized talkouts.
(7) Decrease inappropriate behavior in cafeteria.
(8) Increase neatness in keeping individual locker shelves.
(9) Increase quiet behavior in corriders.
(10) Increase time individual students could work.
(11) Decrease stealing (taking others possessions).

3. Increase Parental Participation

Involving parents in the learning programs of their children is often difficult, especially when a crisis does not immediately exist. Nevertheless, parental involvement can be a key to faster success in reducing school problems. Often consistency between school and home generate change much more rapidly than extreme but unilateral efforts by the school or home.

Because of their potential in helping, then, parents were invited to attend a series of workshops designed to instruct in the use of behavior principles. Parents were then urged to implement the procedures in the home to provide consistency between home and school

Invitations were sent to 180 parents of children in the project. Additionally, parent education sessions were announced in The Claymont Report. Four sessions were held, lasting from 7:00 - 9:00 P.M. on selected evenings. These sessions attracted 117 different parents who attended one or more sessions for a total of 381 parents in session. Furthermore, 20 non-project teachers, as well as 10 project staff members, also attended one or more sessions.

For various and usual reasons, parents could not attend all the sessions; nevertheless, attendance was considered high, with 117 different cont acts made out of 180 direct invitations, i.e. 67%. Further success of the sessions is reflected in the parent ratings of the sessions and testimonials offered by parents. These results are described below.

PARENT COMMENTS:

"It made me see more objectively my behavior in relation to the children's. I'm anxious to work on other behaviors but feel we have improved."

"Michael has already made great progress in reading as well as other behaviors. But the main point is that Mother has changed her own behavior, which I think is very important for our success."

"Very interesting. I wish our school district was funded for this project. Would be interested in attending another session. I am optimistic about this technique and think it will work with Jonathan."

"I enjoyed the program very much. The good behavior reward system should be only natural to a parent but seemed to take extra measures of learning from these classes to make me really initiate them at home. This type of behavior modification has really worked."

"I have enjoyed these meetings very much and am happy to have been a part of them. I feel that both my children and myself have benefited from what I have learned here."

EVALUATION FORM

Claymont Contingency Management - Precision Teaching Project

We request that you assist us in our continuous project assessment program by rating the following items on a 1 - 5 scale: 1 - very little, 2 - below average, 3 - average, 4 - above average, 5 - very much (high). If an item does not pertain to you please indicate by circling the NA (not applicable) rating.

Name _____ Address _____ Date _____

Occupation _____ Purpose for visit: _____

Time spent in facilities: _____

Items	Rating					
	1	2	3	4	5	NA
1. Rate how well you were briefed on the procedures being employed in the project. (At the beginning of this last training program.)	0	0	(5)	2	5	
2. Rate the degree of information concerning contingency management-precision teaching principles you had before this observation period. (This refers to prior to September.)	(7)	0	3	2	0	
3. Rate how well you were in accord with contingency management-precision teaching principles before you observed. (September on)	3	1	(4)	1	3	
4. Rate the degree of information concerning contingency management-precision teaching principles you have after this observation period. (At this time.)	0	0	0	2	(10)	
5. Rate how well you were in accord with contingency management-precision teaching principles after you observed. (Now)	0	0	0	1	(11)	
6. Rate the degree to which this experience will lead you to attempt to use these procedures and techniques (in any future contact with children you might have).	0	0	0	1	(11)	
7. Rate the observation session on its interest to you as a whole. (Whole training program)	0	0	0	2	(10)	
8. Rate the effectiveness of the project program as a means of presenting information concerning contingency management-precision teaching principles.	0	0	0	3	(9)	

This form is modeled from Title III Project Experimental Educational Environment instrument.

Comments: _____

_____

4. Rigorous and continual evaluation of student progress was carried out throughout the project duration. In the third year alone, 65,000 separate data points were plotted on social behavior. Reading, spelling, and math progress monitoring resulted in over 8,000 plots, using frequent five minute samples. These formative data were used to adjust instruction as well as to assess student progress. All such data collection was in addition to the pre and post administration of standardized tests such as the Wide Range Achievement Test, Distar progress checks, and the usual school achievement and intelligence testing. Project teachers did not object to the continual evaluation policy since such evaluation was clearly an integral part of the instructional procedures, rather than an intrusion into the classroom.

Finally, teacher behavior was evaluated several times by outside observers using specially, interior referenced checklists.

5. Teacher-made educational materials.

Behavior Principles as basis for materials:

As part of the continued attempt to implement operant principles and procedures, teachers were offered guidance and materials to assist them in designing and using instructional materials based on behavior principles, thus certain principles that have proven effective in programmed instruction and behavior modification were suggested as criteria for designing instructional materials. Specifically, attempts were made to incorporate the following principles into teacher-made materials:

(1) Task Analysis - Where more complex behavior chains needed for successful task completion were broken down into smaller, easily learned units. The degree of analysis, i.e. smallness or ease of units, must often be tailored to correspond with individual learning rates and problems.

(2) Errorless Discrimination - Where learning problems hinging on discrimination errors are remedied by initially confronting the student with a gross discrimination that is selved by him 100% of the time. Progressively, finer and finer discriminations are presented but only at a rate and sequence where 100% success is maintained.

(3) Immediate Feedback/Positive Reinforcement - Where materials automatically inform the student of the correctness of his response or deliver points or other reinforcers. Such materials that employ these principles are relatively instructor-free and thereby promote learner independence.

(4) Other principles include active involvement, maximum figure-ground contrast, and other principles that have been previously employed in learning materials.

LISTING OF EXEMPLARY MATERIALS DEVELOPED BY PROJECT TEACHERS:

While a great variety of materials were developed, many were peculiar to a specific child or were similar to other materials developed by other project teachers. Therefore, we report here only a few representative materials that typify the total array of teacher-made instructional material.

Name of Material	Description
Multiplication Yarn:	A board has numerous multiplication problems on it down the lft. side. On the right column are numerous ans. options, scrambled with respect to the problems. There is a colored piece of yarn attached to each problem and a hole at each answer option. The child is to string the yarn through the right hole (problem to answer connection). Answers are on the back. Principle Involved: Active involvement, immediate feedback, sequenced difficulty.
Least to Greatest Game:	Numerous cards have math problems on them. Children are to solve the problems and then arrange the cards in order of increasing totals. They can tell if they are right by turning the cards over; correct sequencing is revealed by a continuous line drawing on the reverse side of the cards. A card out of order disrupts the drawing. Principle Involved: Active involvement, immediate feedback, task analysis.
100 Point Game:	Children slide pennies on a slick board that has written on it a matrix of numbers. When a penny lands on one or several adjacent numbers, the child adds up the total points touched. (Pennies can also go out of bounds with penalty points subtracted.) Two or more children play the game. The first with 100 points wins. Each child monitors the score keeping of the other players, thus immediate and corrective feedback. Principles Involved: Active involvement, reinforcement of cooperation, corrective feedback.

Name of Material	Description
Compound Word Wheel:	Ten words are printed like spokes on a wheel (cardboard disc.) Ten spring loaded clothespins are provided, each with a word printed on it. By clamping the clothespin to the wheel, compound words can be formed. The child must match words in various combinations to produce acceptable compound words. Once the words are formed, the child may turn over the wheel to discover acceptable answers. Various word sets are available making grading difficulty possible. Principles Involved: Maximum to minimum stimulus discrimination (through sets of words graded in difficulty), immediate feedback, multiple response options (more than one right answer possible), positive reinforcement (when wheel has all its spokes).
Math Brain Teaser:	Twenty-one cards with math problems are to be grouped, same answer cards together. These groups are then to be arranged from low to high answers. Cards can be turned over to find answers. Principles Involved: Immediate feedback, shaping (with graded difficulty).

Summary: Most project teachers designed, developed, and employed self-made materials. Further, project teachers shared their materials when feasible. During fall terms, project staff participated in the Delaware Council for Exceptional Children Conference. At this Claymont session, project teachers displayed and explained their instructional materials. This session was the most heavily attended of any session at the conference.

Each set of teacher-made materials has not been individually evaluated as would be standardized, commercialized materials. Obviously, however, the materials were designed to meet idiosyncratic prescriptive needs; the teachers designed and redesigned materials until they worked with a given child. In this sense, then, the materials underwent formative evaluation throughout the year.

At this time, the project consultant has judged approximately 60% of the materials to be in high accord with behavior principles. Other materials, it was judged, are useful but could be improved.

Now that the utilizing of teacher-made materials, designed along behavioral lines, has been shown to the teachers' satisfaction, we should expect to see the continual development and use of specifically designed, individualized, remedial, and well engineered instructional materials.

VII. DISCUSSION

As was stated in the second year report, this project does not employ nor purport to employ the classic experimental control group design. Such a design was not feasible nor, indeed, desirable. Instead, the basic design is actually one related to an interrupted time series design. Such design is essentially based on looking at changes in the pattern or predicted pattern of events before and after intervention. For example, special education children show a history of inferior performances in the classroom. When an intervention program is attempted, the usual pattern and expectancies of the children are positively altered, if the program is successful. To be certain that changes can be attributed to the program, however, the new, changed pattern must be demonstrated to persist. The changes cannot simply be a one-shot, single observation.

Essentially, the project has attempted new strategies of intervention, effected changes in the social and academic competence of students and teachers, and has demonstrated that such positive changes can persist over several years. As was stated last year: "The only weakness in the evaluation design that can be considered is whether or not results can be generalized to other projects using the same procedures. We will feel more comfortable in doing this if our results are repeated again in our third year of operation (Page 40)." Not only have our results been repeated, but they have been magnified. On almost all measures, progress has been greater than expectations:

(a) Teacher behavior has conformed almost ideally to training specifications from the standpoints of high use of positive reinforcement, formal and informal systems of motivational management, low use of punishment (verbal and non-verbal, copious production of special materials, and continual monitoring and charting of progress data (formative evaluation).

(b) Student progress has been more than satisfactory. Discipline problems are absolutely minimal; reading, spelling, and arithmetic performance is demonstrably beyond target performance for most children. The program has demonstrated that IQ predictions of academic success can be ruined by positive intervention. A change in the expected educational environment results in changes in the expected child performance. This has been called "over achievement", but we prefer to call it "under prediction" of the tests.

(c) Parent involvement has been satisfactory, but less than ideal. Of course, it is not feasible or usually possible to control the contingencies of the parents as with school children, and many of the parents who need help the most are the hardest to involve. Nevertheless, a number of parents have been actively involved with positive results in the school.

In view of the three years of positive results, we do believe that the procedures and findings are generalizable to other similar educational situations. The project has faced myriad problems typical of in-site research and demonstration. No special teachers were imported, children were not especially selected for inclusion, and there was no special physical plant employed. All procedures were implemented into the ongoing situation; thus the project has a high degree of external validity or generalizability.*

Factors that may bias results and perhaps introduce some degrees of non-generalizability include the halo effect or high enthusiasm of staff members, including teachers, aides, and parents. Of course, such enthusiasm and determination was one of the intended results of the program and, indeed, part of the "treatment".

Individualizing instruction limited the possibility of constructing group means due to the multiplicity of levels, materials, and procedures appropriate to various children. This loss in group data is not important to this project since the essence of our evaluation was individual, with continual monitoring and learning to mastery.

* In this connection, it is worthy to note that project strategies have been adopted within the Woods Haven-Kruse and John G. Leach Schools. This occurred after direct contact with the project and consulting through the project director.

VIII. CONCLUSIONS AND RECOMMENDATIONS:

Findings have been summarized and evaluated in place. The overall conclusion is that the project has attained its targets, the procedures and results are generalizable, and that the cost factor is negligible when weighed against the benefits to children.

We believe the project procedures and findings should be abstracted and disseminated in order to provide incentive and guidelines to others. We plan to continue the basic program after termination of funding.

IX. SUMMARY

The Claymont Behavior Modification Project has completed its third and final funded year of operation. The major objectives (stated in detail elsewhere) were to:

(1) Train teachers in operant procedures for use in an uncontrived, natural setting.

(2) Accelerate student academic performances, with a special view to achieving one year's academic growth in one chronological year for special education children.

(3) Involve parents in project-related procedures.

(4) Maintain a rigorous and continual formative evaluation program to monitor progress in order to provide feedback for instructional program adjustments.

(5) Develop an array of teacher-made materials appropriate to individualized programming, both remedial and normative.

All objectives were met or exceeded. Objective number two (2) was especially important since child progress is the yardstick against which other objectives must, in the final analysis, be measured. On standardized assessment devices, specially prepared achievement tests, and individual behavior-change charts, students showed substantial gains; 70% special education children displayed academic growth in reading, spelling, and arithmetic in excess of the one year growth target. Social behavior problems were of a low

level at the beginning of the third year and continued at a minimal level through the year.

Eleven teachers with a total of 270 children were involved. Teachers collaborated and shared materials. Project teachers overwhelmingly reported satisfaction both with project conduct and product.

Project procedures have been disseminated and were adopted within the schools outside the Claymont District.

General recommendations are to prepare an abbreviated manual on the project in order to stimulate and guide other educators. Finally, the program will continue and, hopefully, expand even after termination of funding. Our project behavior has been reinforced by its outcome.

APPENDIX

Primary Educational Programs

Basically, each teacher rated programs that were used in individual classrooms and the equipment used, since some teachers were using programmed instruction (Sullivan, Merrill) which is designed for behavioral strategies. Whereas others were using basal programs, it was impossible to rate the effect of this by teacher ranking. However, this does not deter from the project evaluation but actually establishes objectively the individualization of the program. In fact, one of the outcomes of the project is indicated clearly here in that multi-programs can be used effectively with behavioral principles. At the project's onset it was assumed that materials such as Sullivan and Distar or others designed on the principles of operant conditioning, i.e., immediate feedback, errorless discrimination, etc., would be necessary for full utilization of operant teaching strategies. This is apparently not so. Even teachers using basal reader programs use behavior modification instructional techniques effectively and efficiently.

Primary Educational Programs Used by Project Teachers

(Two or More Ranks Included)

Rank Order		No. of Teachers Chosing Program Regardless of Rank
1.5	Sullivan Reader	4
1.5	Merrill Reader	2
1.5	Macmillan Basal Series	2
1.63	Distar	4
1.75	SRA	2
2.66	Scott Foresman	3
2.7	Lyons & Cornahan - Phonics A & B	4
4.0	Sullivan Math	2

Priority Program Equipment

Priority program equipment rank order figures are biased as most teachers included tie ranks because they could not choose between equipment. One teacher ranked ten materials in first place, indicating she used all ten with equal educational efficiency. Therefore, modal average is included to indicate the number of the most often chosen material regardless of ranks.

Priority Program Equipment by Teacher Rank Order

Rank		No. of Choices
1	Tape Recorder (Cassette)	9
2	Timer (Kitchen type)	8
5	Filmstrip Project	5
5	Filmstrip Viewer with Tape Recorder	5
5	Listening Station	5
5	Record Player	5
5	Tape Player	5
8	Overhead Projector	4
9-1/2	Viewlex Previewer	3
9-1/2	DuKane A-V Matic	3

Rank		No. of Choices
11-1/2	Cyclo Teacher	2
11-1/2	Tape Recorder (Tape Type)	2
15	Blank Filmstrips	1
15	Craig Reader	1
15	Hoffman Viewer	1
15	Television	1
15	Feedback Chair	1

TEACHER AIDE EVALUATION

TITLE III

Name (Aide)	Control			Efficiency		Flexibility	Knowledgeable	Sticks to Tasks Until Completed
	Individuals	Small Groups	Entire Class	Graphing	Counting	Surveys situation and fills gaps	Behavior Mod System	

Relations		Inventiveness		Public Relations Image	Adaptable
Children	Staff	Schedule	Instructional Situations		Able to make Changes Easily

EVALUATOR: _____

DATE: _____

BEHAVIOR MODIFICATION PROJECT
TITLE III - ESEA
CLAYMONT SCHOOL DISTRICT
CLAYMONT, DELAWARE
19703

TEACHER OPINION SURVEY

1. I have enjoyed teaching with the Contingency Management Approach

   a. more than if a traditional course format had been used.
   b. the same as I would if a traditional course format had been used.
   c. less than if a traditional course format had been used.

2. I think my students have learned

   a. more with the new course format.
   b. the same with the new course format.
   c. less with the new course format.

3. I have worked

   a. harder with the new system.
   b. the same with the new system.
   c. less with the new system.

4. I

   a. am satisfied with the new approach.
   b. don't care about the results.
   c. am dissatisfied with the new approach.

5. The training program was

   a. difficult.
   b. average.
   c. easy.

6. I find designing educational materials commensurate with the laws of sequential learning development

   a. difficult.
   b. average.
   c. easy.

BEHAVIOR MODIFICATION PROJECT
TITLE III - ESEA
CLAYMONT SCHOOL DISTRICT
CLAYMONT, DELAWARE
19703

OBSERVATION: _____ DATE: _____

OBSERVER: _____

Time	* Attends to Desirable Behavior	*Attends to Undesirable Behavior	Deals with Undesirable Behavior in Formalized Way

* "Attends" is further specified by:
F=formal (use of token, point, etc.)
I-informal
G=group
P=personal

Notes:

BEHAVIOR MODIFICATION PROJECT
TITLE III - ESEA
CLAYMONT SCHOOL DISTRICT
CLAYMONT, DELAWARE
19703

TEACHER: _____ DATE: _____

OBSERVER: _____

INFORMATION

1. Targets stated for groups?

2. Targets stated for persons?

3. Data collected?
   Data displayed?

4. Formal reinforcement system in use:
   Describe:

5. Informal (i.e. ad lib social reinforcement of target behaviors) reinforcement system in use?
   Describe:

6. General increase in academic levels?
   What academic areas and what increases?

7. General decrease in social behavior problems?
   What problems were decreased?

CLAYMONT SCHOOL DISTRICT
BEHAVIOR MODIFICATION PROJECT

SUPERINTENDENT
Dr. Frank J. Furgele
Claymont School District
Green Street
Claymont, Delaware 19703

PROJECT DIRECTOR
Mr. William F. Shaw
Maple Lane Elementary School
Phone: 798-1474, Ext. 75

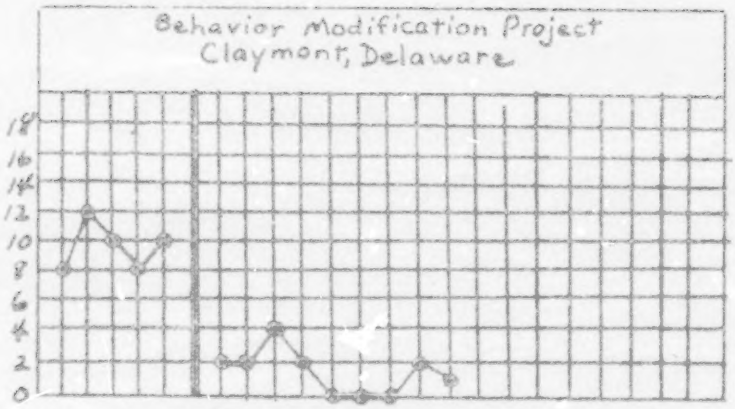
PROJECT AREA
Claymont School District

OBJECTIVES
Train staff to become increasingly expert in Precision Teaching.
Increase academic achievements and increase student's social behavior
Accelerate parent participation.
Maintain a rigorous evaluation design.
Develop teacher-made educational materials with emphasis on errorless discrimination and sequential learning.

ACTIVITIES
Training workshops.
On-the-job training.
Visitation--within project staff.
Visitation--for district staff.
Parent Training Sessions.
Self-Concept scrapbooks.
Teaching machine instruction for bright pupils.
Teacher-made materials.
Peer group tutoring.
Cross-age teaching.
Volunteer parent aides.
News Releases.
Unique measurement match--teacher-made tests with individualized instruction.

PROJECT PERSONNEL
Director
Seven Teacher-Aides
Eleven Classroom Teachers

ESEA TITLE III GRANTS
FY 70 - $16,500
FY 71 - $25,000
FY 72 - $28,000



This project is a continuing and systematic effort to apply modern learning principles to achieve student academic and social progress through the blending of technology and therapy. Teachers, aides, and parents are offered training and counseling in behavioral strategies. The program is based on the assumption that every child can do better if given improved materials and motivation systems.

A form of precision teaching commonly called behavior modification is applied immediately, consistently, and later intermittently following desired behavior and task accomplishment.

Project focus is primarily upon regular students to improve achievement through persistence and correctness. However, the gamit of children with exceptional needs are also sampled in our project, including the brightest.

Improving pupil self-concept is a high priority curricular task. Youngsters enjoy developing scrapbooks about themselves, "Who Am I". Teacher-aides, parents, classmates, and the children themselves record positive statements. Positive eye and ear shotting techniques (teachers making positive statements to others overheard by youngsters) are used to reinforce self-image.

In brief, our program emphasizes the following: Use of behavioral objectives, systematic use of positive reinforcements (tokens privileges, praise, contracts) to build desirable academic and social skills, development and use of cues to influence achievement, continual and objective data collection to evaluate and guide further effort, design, and development of teacher-made learning materials based on behavior principles, participation of parents in the program through evening instructional sessions and counseling. A parent handbook, "Changing Children's Behavior", cassette tapes and slide presentations, and video tape have been developed.

Parents Help Speed Learning In Title III

by Mr. William F. Shaw,
Director, Title III Program

One of the main thrusts of the [illegible] III, Behavior Modification [illegible] now operating in its third [illegible] year of funding, is parent involvement. We have demonstrated that children improve in [illegible] rate and arithmetic rate when parents invest only ten [illegible] per day, for only several [illegible] per week, in helping their [illegible]. A planned systematic, [illegible] system is shared with [illegible] in five evening two-hour [illegible]. Parents are actually [illegible] in learning and learning [illegible] in a simple and practical [illegible] built upon the best [illegible] elements of learning theory. [illegible] the three years of this [illegible] continuing, dozens of parents have attended the sessions.

[illegible] some of the parent comments [illegible]

"The training program was interesting, informative, and very useful. The principles learned and practiced are extremely valuable. [illegible] a happier [illegible] ace as a [illegible] Every parent should take [illegible] of the opportunity to learn [illegible] techniques."

"It was a very enlightening program. In the beginning I just didn't [illegible] it would work; now I'm thoroughly convinced it is the best [illegible] to give you the kind of [illegible] with your children that [illegible] parents want. I feel I am a [illegible] pleasant mother and my children are delightful."

"I feel that this program has been extremely helpful at home as well as in school for both of our children."

"I have enjoyed these meetings [illegible] I am happy to have [illegible] of them. I feel that [illegible] children and myself have [illegible] from what I have [illegible]

"I enjoyed the program very much. The good behavior reward system should be only natural to a parent, but it seemed to take extra measures of learning from these classes to make me really initiate them at home. This type of behavior modification has really worked."

"I learned two specific techniques of dealing with my son's behavior. I wanted immediately employable techniques for which I could accept and understand the logic and motivation. This I got. Who could ask for more? I also, unexpectedly, learned things that will be useful to my teaching of low level kids."

"I feel I have learned a great deal from this program. I have learned a new approach and it is working beautifully and has made my home more pleasant."

"Thank you for helping me. It was great!"

"I have thoroughly enjoyed it!"

Want to Join?

Current plans are to initiate groups of about twelve parents who are willing to attend rather faithfully four out of the five sessions. Parents in need of counseling involving their childrens' poor motivation, slow assignment completion, incomplete work, talking back, thumbsucking, procrastination, irregular completion of home and school tasks, etc., or parents who would just like to maintain existing neat and desirable habits in their youngsters are urged to contact Mr. William F. Shaw at 798-1474, ext. 75. Please leave a message with one of the school secretaries if unable to contact Mr. Shaw directly.

This affords the opportunity for any parent in the community, not just those involved with the Title III Behavior Modification Project, to become involved in parent counseling and training.

Parents Assist With Play Activities In Title III Project

A group of Darley Road mothers have joined the Title III Behavior Modification Project by assisting the Project's teachers with the play program. The volunteers give an hour and fifteen minutes of their time on a regular basis to operate the school's Reinforcement Room, which is equipped with games and activities which the children are allowed to use as a reward for meeting their academic and social criteria.

"The RE (Reinforcing Events) Room is well accepted by the children and the mothers are faithful in fulfilling their responsibilities on a regularly scheduled basis," commented Mr. William F. Shaw, Title III Project Director.

Assisting Miss Barbara Inman and Miss Ellen Stecher, the Title III teachers, are: Mrs. Mary Gallagher, Mrs. Barbara Artz, Mrs. Sharon Carroll, Mrs. Olga McCarthey, Mrs. Christine Pini, Mrs. Mary Lou Johnson, Mrs. Sarah Hess, Mrs. Jean Warner, Mrs. Ann Walley, Mrs. Bechie Cipolla, Mrs. Charlene Robinson, Mrs. Rosemary Lynch, Mrs. Roberta Lang, Mrs. Joyce Saville, Mrs. Miriam Gruber, Mrs. Bea Sharkey, Mrs. Nancy Carter, Mrs. Anita Bowhall, and Mrs. Grace London.

Room A-29 at Darley Road was set aside last year and has been maintained by parent and teacher contributions and maintenance since then. "The parents and children have cooperated nicely in maintaining the equipment in good shape," Mr. Shaw noted.

Has the Reinforcement Room been profitable educationally? "Some children are accomplishing tasks we thought impossible before these management arrangements were established. For example, a youngster is given the forerunners of self-management training by being taught to accomplish the hardest tasks before his favorite subjects and then engaging in [illegible] minutes of *play* activities before starting his next assignment. Some children actually waste sixty minutes by dawdling. Now their class time is spent in task accomplishment. Behavior modification principles follow the time-honored 'Grandma's rule': 'Eat some peas and then your hamburger,' Mr. Shaw concluded.

New Device Encourages Youngsters To Stay In Seats Longer

An age old problem in elementary education has been what to do about youngsters who simply will not stay in their seats long enough to complete any substantial assignment. Mr. William F. Shaw, director of the Title III Behavior Modification Program at the Maple Lane and Darley Road Schools, believes that a new device, the "Automatic Seat Leaver with Timer," may help to solve the problem.

The new educational aid was produced by Mr. Robert Forsburg, an associate of Dr. Jack Nelsworth of Penn State University.

Mr. Shaw explains how the innovative device works: "An ordinary kitchen timer and simple counter are the main parts of our Automatic Seat Leaver, which is attached to the rear of a metal student chair. A child is instructed in the use of the chair and in how such a tool might be used to help him stay in his seat for longer periods of time.

"The youngster soon learns that the timer can be set for a few minutes and eventually for longer periods of time. He also learns that each time he gets off his seat, the counter counts. Usually a simple contingency, or contract, is drawn up between teacher and child such as, 'If you can increase the length of time in the seat, teacher will reward you with praise or some other appropriate reinforcement.' Eventually, praise is also cut back to only occasional teacher recognition of the youngster's improved 'staying in seat.'

"Our experience with many youngsters over the past year indicates that eventually the increased accomplishment in itself is enough reward for continued improvement," Mr. Shaw concluded.

NEW DEVICE – Mr. William F. Shaw (right), director of the District's Title III Program, explains the operation and purpose of the new "Automatic Seat Leaver with Timer" to (from left) Donald Riess, Bryan Clements, and Mrs. Virginia Cox, a teacher at the Maple Lane School. The educational aid is designed to assist youngsters with seat leaving problems to develop more acceptable habits.

Behavior Mod Classrooms Are Video Taped

A new technique in supervision was tried in Mrs. Beatrice Young's classroom at Maple Lane and Mrs. Rae Burns' classroom at Darley Road recently. Dr. Claude Marks, a student teaching supervisor from the University of Delaware, video taped the classes at work so he could share the live experiences with his students. A graduate student, Mr. Ed. Heyden, the son of a Mount Pleasant guidance counselor, served as the technician for the taping sessions.

"Although Mrs. Burns and Mrs. Edna Wilson, her student teacher, admitted feeling somewhat uncomfortable about having the TV camera continuously zoomed on them, they were, nonetheless, pleased with being able to see their teaching activities 'replayed for them,'" commented Mr. William F. Shaw, Director of the Behavior Modification Title III project.

Mr. Shaw also reviewed the video tapes with his teachers and assisted in making minor changes in teaching techniques.

"All the persons involved seemed to agree that video taping of teaching is a better form of teacher supervision than direct supervision, especially because of the playback opportunities," Mr. Shaw reports.

Mr. Shaw also showed the tapes to his graduate students in the University of Delaware course, "Techniques for Behavior Change."

"This experience enabled down state students in teaching, nursing, criminology, and Air Force instruction to see current behavior modification activities 50 miles away. Although a field visit of the Claymont project would be preferable, the graduate students cannot get off from work during the day to see the children in action, so video tape helped bridge the mileage gap," Mr. Shaw concluded.

"Can We Use DUSO Instead Of Going To Recess?"

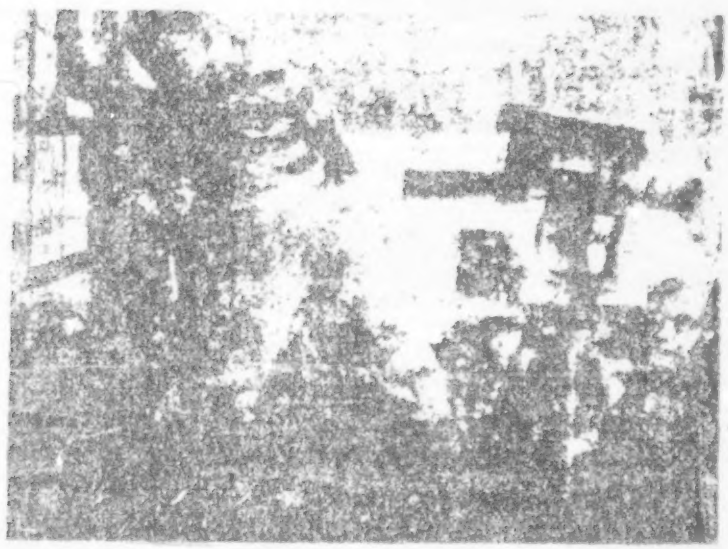
Would you believe that the children in resource teacher Mrs. Rae Burns' non-graded class at Darley Road School would actually prefer working with their DUSO kit than going out to play? It's true.

"Developing Understanding of Self and Others is a developmental guidance program designed to help youngsters develop more realistic and positive self concepts.

"The program has songs with catchy tunes that are easily learned. Puppets portray life roles such as consideration and thoughtfulness. The pictures are appealing. Children can easily identify with the people in the stories. They freely discuss the problems in their stories and enjoy acting out, or role-playing, similar situations," explained Mr. William F. Shaw, Title III project director.

"One aspect of the Title III Behavior Modification Project is the improvement of pupil self-concept. Mrs. Burns' children further reinforce positive self-perceptions or feelings about themselves by role-playing with puppets in a regular puppet stage. Children make up their own plays. Often youngsters project themselves into the characters they develop. Puppetry encourages creative expression and helps especially with shy and withdrawn children," Mr. Shaw added.

"Mrs. Bertha Heacock, another Title III teacher, uses pupil-made stocking puppets. Children write stories and present them to each other and to other classrooms," he concluded.



TAPING--Mr. Ed Heyden, who served as the technician during taping sessions in the Maple Lane behavior modification classrooms recently, works with his equipment under the watchful eyes of students (from left) David Kennedy, Billy Troutman, Jennifer Pratt, and Patty DeRose.

May 11, 1973

Mr. William F. Shaw, Jr.
Elementary Counselor
Maple Lane Elementary School
Maple Lane
Claymont, Delaware 19703

Dear Mr. Shaw:

I am writing this belated letter to thank you, Mr. Thompson, and the other members of your staff for the time spent with us in showing your fine special education program. I don't think I have ever met a group of more gracious people.

Mr. Thompson's visit here was quite fruitful. Mr. Sherwood now has a better idea of how to operate in a structured program and has a much better relationship with his children. In addition to five elementary children, he is now working with only two or three junior high children for a short time each day, and I think this fact has also helped his situation.

Next year's arrangement is still not settled. We have had a large number of children recommended for L.D. but very few for S.E.M. We may end up with no S.E.M. class and two or more L.D. classes. I am pretty sure elementary and junior high children will not be mixed again. The Sullivan reading series will be used in our special classes next year, along with Distar and other materials.

Thank you again. We wish you continued success in your great work.

Sincerely yours,

Arthur Waldhauser
Assistant Principal

AW:rr